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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,000	01/05/2004	Thomas E. Harbin	02-0611	6475

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EXAMINER

MITCHELL, KATHERINE W

ART UNIT PAPER NUMBER

3677

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/753,000

Applicant(s)

HARBIN ET AL.

Examiner

Katherine W. Mitchell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/5/2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Formal Matters

The filing date has been corrected to show a filing date of 1/5/2004.

Specification

1. The abstract of the disclosure is objected to because it is over 150 words long..
Correction is required. See MPEP § 608.01(b). Applicant is reminded of the proper language and format for an abstract of the disclosure:

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. **It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.** The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

Claim Objections

2. Claims 7, 15, and 24 are objected to because of the following informalities:
Applicant is claiming a plurality of alternatives. It is not clear how many/which of the alternatives are required. A Markush Group and its application are discussed in the MPEP Paragraph 2173.05(h).

Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being "selected from the group consisting of A, B and C." See Ex parte Markush, 1925 C.D. 126 (Comm'r Pat. 1925).

Ex parte Markush sanctions claiming a genus expressed as a group consisting of certain specified materials. Inventions in metallurgy, refractories, ceramics, pharmacy, pharmacology and biology are most frequently claimed under the Markush formula but purely mechanical features or process steps may also be claimed by using the Markush style of claiming. See Ex parte Head, 214 USPQ 551 (Bd. App. 1981); In re Gaubert, 524 F.2d 1222, 187 USPQ 664 (CCPA 1975); and In re Harnisch, 631 F.2d

716, 206 USPQ 300 (CCPA 1980). It is improper to use the term "comprising" instead of "consisting of." *Ex parte Dotter*, 12 USPQ 382 (Bd. App. 1931).

The use of Markush claims of diminishing scope should not, in itself, be considered a sufficient basis for objection to or rejection of claims. However, if such a practice renders the claims indefinite or if it results in undue multiplicity, an appropriate rejection should be made.

Similarly, the double inclusion of an element by members of a Markush group is not, in itself, sufficient basis for objection to or rejection of claims. Rather, the facts in each case must be evaluated to determine whether or not the multiple inclusion of one or more elements in a claim renders that claim indefinite. The mere fact that a compound may be embraced by more than one member of a Markush group recited in the claim does not necessarily render the scope of the claim unclear. For example, the Markush group, "selected from the group consisting of amino, halogen, nitro, chloro and alkyl" should be acceptable even though "halogen" is generic to "chloro."

The materials set forth in the Markush group ordinarily must belong to a recognized physical or chemical class or to an art-recognized class. However, when the Markush group occurs in a claim reciting a process or a combination (not a single compound), it is sufficient if the members of the group are disclosed in the specification to possess at least one property in common which is mainly responsible for their function in the claimed relationship, and it is clear from their very nature or from the prior art that all of them possess this property. While in the past the test for Markush-type claims was applied as liberally as possible, present practice which holds that claims reciting Markush groups are not generic claims (MPEP § 803) may subject the groups to a more stringent test for propriety of the recited members. Where a Markush expression is applied only to a portion of a chemical compound, the propriety of the grouping is determined by a consideration of the compound as a whole, and does not depend on there being a community of properties in the members of the Markush expression.

When materials recited in a claim are so related as to constitute a proper Markush group, they may be recited in the conventional manner, or alternatively. For example, if "wherein R is a material selected from the group consisting of A, B, C and D" is a proper limitation, then "wherein R is A, B, C or D" shall also be considered proper.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant is claiming a swage type fastener, comprising a pin and a collar. However, additional claim limitations include requirements for comparisons of multiple pins in multiple applications, which are not claimed. Further, examiner notes that apparatus claims consider only structural limitations, and a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In all independent claims, applicant has claimed geometries defined by their use either in a shear application or a tension application, which cannot patentably distinguish apparatus. An apparatus cannot be claimed by comparison to the apparatus in another application.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 5-7,9-10,13-15,17-19, and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ruhl et al. USP 4472096, hereafter called Ruhl. As noted

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above, differences in applications of structures not described are not given patentable weight as long as the cited structures are capable of the limitation.

Re claims 1,9, and 18: Ruhl teaches a swage type fastener capable of securely fastening a plurality of workpieces together in a plurality of applications having different load requirements, the fastener comprising:

a pin of a diameter with an elongated shank and terminating at one end with an enlarged head, and at the other end having a grooved portion (Figs, col 2 lines 23-52)

a tubular collar swaged into the lock grooves, the collar having lock grooves and shoulders interlocking the lock grooves and crests (formed during swaging, best seen in Figs 4-6, see col 2 lines 59-66), the collar and pin formed of different materials (col 4 lines 18-19).

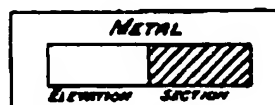
Relative features between applications of the pin and collars could be selected to meet such limitations, see col 3 lines 31-38 and throughout.

Re claims 2,10, 17, 19: Relative features between applications of the pin and collars could be selected to meet such limitations, see col 3 lines 31-38 and throughout.

Re claims 5,13,22: Overpacking of about 20% is taught in col 7 lines 1-29.

Re claims 6,14,23: Workpieces are at least capable of being metal, and note

that MPEP 608.02 shows metal as:



which corresponds to the

hatching of "18" and "20", the workpieces of Ruhl in the Figures.

Re claims 7,15,24: Applications including shear, shear/tension, shear composite, or shear/tension composite applications are taught in col 4 lines 8-38.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3-4, 11-12, 20-21 and 8,16,25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruhl.

Re claims 3-4, 11-12, 20-21: Ruhl teaches that pins and collars are designed for specific applications and that titanium is lighter, stronger, and more expensive than aluminum. Ruhl also teaches that aluminum, steel, and titanium alloys are used as materials for swage-type fasteners in col 4 lines 28-63, and col 5 lines 23-65 specify that the compressive yield strength (fcy) of the collar material is an important factor. Inevitably, high strength collars would be titanium alloys, and low strength collars would be aluminum alloys depending on application. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have selected the collar material to meet the strength requirements of the application, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Re claims 8,16,25: A fastener capable of fastening workpieces that vary in thickness up to 1/8 of an inch is taught throughout, including col 8 lines 25-34 and col 11 lines 60-65:

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Note that it is desirable that a fastener of a given size be capable of securing workpieces varying in total thickness. The fastener 10 of FIGS. 1 and 2 has that capability. Thus, FIGS. 1 and 2 depict the fastener 10 with workpieces 18 and 20 having the minimum total thickness for that fastener. With the minimum total thickness, the fastener 10 will have one lockgroove 26e only partially filled whereby the lockgrooves 26a-26d will be filled and will be effective to carry the tension load (see FIG. 2).

.....

8. a. Length of that portion of shank 15 extending beyond workpieces 18, 20 to the root of last groove (26e) for nominal (grip) combined thickness for pin with grooves 26a-e=0.209" (see 15p in FIG. 6).
- b. Grip range for variations in thickness of workpieces 18, 20 for pin with grooves 26a-e=0.094".

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have designed the fastener for a grip range of up to 1/8", since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Ruhl teaches that a larger grip range is desirable to allow for varied workpiece thicknesses, and thus the maximum allowable range would be based on costs, application, and materials to optimize the fastener.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

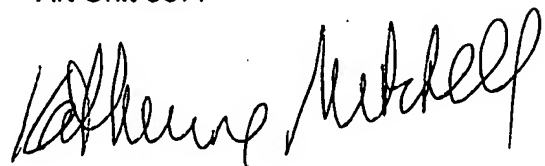
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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine W. Mitchell whose telephone number is 571-272-7069. The examiner can normally be reached on Mon - Thurs 10 AM - 8 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Katherine W Mitchell
Examiner
Art Unit 3677



Kwm
4/11/2005